Range Road RR Series
Semi-Automatic Firewood Processor

Manual

Range Road Enterprises Ltd.
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Note: Any modification to Processor will void all warranty

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Warning

Read this manual. Serious injury or death can result if safety instructions are not followed.

Engine is shipped without oil.
Before starting engine, fill with SAE 10/30 motor oil.
See engine manual for engine oil capacity.
Hydraulic reservoir is shipped without oil.
When adding oil, use the dipstick to gauge amount, Approximately 20 litres (5 gallons) of AW Type Hydraulic Oil only.
Closely inspect all processor components and ensure all exterior bolts are tightened
If components are damaged during delivery, please contact the freight company that delivered the unit and file a claim.

DANGER (red) indicates an imminently hazardous situation which, if not voided, could result in death or serious injury

WARNING (orange) indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION (yellow) indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury

CAUTION (yellow) used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage

You must be 16 or older to operate this machine.

Keep untrained people out of work zone.

Never leave the log processor unattended, while the engine is running.

The wedges can cut through skin and break bones. Keep both hands away from wedges and ram cylinder. Serious accidents can happen when other people are allowed inside the work zone. Keep everyone else out of the work zone while operating Processor.

Never wear loose clothing, when operating the firewood processor.

Only operate the firewood processor in daylight.

Wear safety glasses to avoid eye injury as pieces of log may fly out while splitting.

High pressure hydraulic fluid can inject under skin resulting in serious injury including amputation.

Make sure all fittings are tight before applying pressure. Relieve system pressure before servicing.

Do not check for leaks with hand. Instead, use a piece of cardboard to check for leaks.

If skin injection happens, seek immediate “Medical Assistance”.

Serious injury or death can occur if towing safety rules are not followed.

Review towing safety warnings in your towing vehicle manual.

Drive safely. Be aware of the added length of the firewood processor.

Never ride or transport cargo on the firewood processor.

Drive the vehicle with the firewood processor securely attached.

Choose a level surface to operate the firewood processor.
Block the firewood processor wheels to prevent unintended movement.

Never tow or operate this processor while under the influence of alcohol, drugs, or medication.

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	Risk of fire and explosion. Hot exhaust fumes from engine can cause fire. Gasoline is highly flammable and explosive. You can be burned or seriously injured when handling fuel.
	Position muffler at least 213 cm (7 feet) from combustible objects.
	Before adding fuel, stop the engine and keep heat, sparks, and flame away. Do not add fuel when engine is running or still hot. Do not smoke near the engine while fueling.
	Do not pump fuel directly into engine at gas station. Static charge can build and ignite fuel. Use a safety approved fuel container to transfer gas to the engine. Wipe up fuel spills immediately.
	Only store and handle fuel outdoors. Gasoline vapors can ignite if they collect inside an enclosure. Explosion may result.
	Do not change or add to exhaust system. Fire may result.
	Do not change or add fuel tanks or fuel lines. Fire may result.
	Before each use, check fuel tank and fuel lines for leaks. Any fuel leak is a fire hazard. Fix any fuel leaks before starting engine.
	During transportation take precautions to make sure machine will not tip over and cause a fuel leak fire hazard.
	Poisonous fumes from engine can kill you. Do not operate indoors even if ventilated. For outdoor use only.
	Do not touch the muffler as you may get burned.

Note: Any modification to Processor will void all warranty

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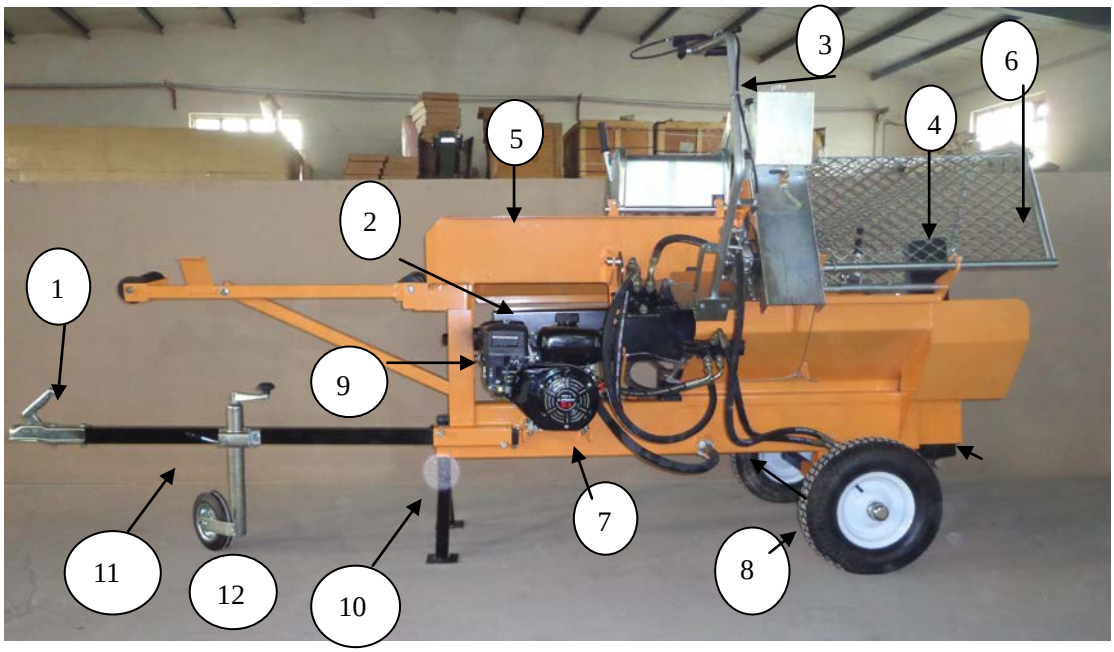
Identification



1. **2” Coupler:** Attaches the firewood processor to your vehicle. Fits only 2” hitch balls.
2. **Hydraulic Cylinder:** The hydraulic cylinder has a 61cm (24.5”) stroke. It is rated to 3500 PSI
3. **Saw Bar Handle:** Use the saw bar handle to draw the chain saw bar down, run the chain, and to move the splitter block forward.
4. **Wedge:** The wedge features wedge wings and a taper that makes splitting easier. Added is the optional side wedges for splitting 4 ways
5. **Log Deck:** The log deck is angled to help keep the log against the deck wall without operator assistance.
6. **Safety Screen:** Stops hydraulic operations when screen is raised.
7. **Engine:** The air cooled engine powers the hydraulic pump.
8. **Tires:** Maximum rated speed is: RR1000/RR1500 - 8” Wheels – 65Kph (40 Mph)

   RR2000/RR2500 – 13” Wheels - 80Kph (50 Mph).
9. **Gear Pump:** The gear pump makes the hydraulic oil flow through the system. The RR2000/RR2500 Has a 2 stage pump with one live section dedicated to the conveyor.
10. **Leg:** The leg helps support the firewood processor while operating. The leg should be pulled out of the sleeve and reinserted from top down while towing (see Operation Instructions)
11. **Front Wheel:** Used for moving on even stable ground.

Operation

Proper Operation of the Firewood Processor

1. Preset the cut off length using the measuring bar, loosen the 2 wing nuts and slide the bar to the correct position, re-tighten the wing nuts.
2. Load a log onto the log cradle and slide into processor until the end of the log touches the measuring bar.
3. Open the ball valve to start the flow of bar oil.
4. Pull the Saw Bar Handle down to engage the chain.
5. Gently pull the Saw Bar handle downwards with the chain running and cut through the wood.
6. When pulling the saw bar down and the saw is getting close to cutting through the log you will notice tension on the bar as the cable to engage the ram starts to be activated, keep drawing the saw blade down until cut is complete.
7. The cut piece will drop into the splitter area, raise Saw Bar Handle and ram will engage..
8. Once the log has been pushed through the splitter, the ram will automatically retract.
9. Repeat steps above, when a stub piece needs to be cut, make sure to cut the short piece off so that the longer piece is on log deck, this keeps hands away from moving chain.
10. Serious accidents may happen when other people are allowed inside the work zone.
11. It is recommended to have a minimum 7 metre (20 ft) radius safe work zone.
12. Keep all non-essential people out of the work zone while operating processor.
13. Make sure hands are clear of crush hazard zones.
14. Clear the split wood from the work zone.

Maintainance

Before performing maintenance, the firewood processor must be placed in maintenance mode.

1.) Turn off engine.

2.) Move the saw bar handle down and up multiple times to relieve hydraulic pressure.

After performing maintenance, make sure all guards, shields, and safety features are put back in place. Failure to follow this warning can result in serious injury.

Refer to the engine owner's manual for engine maintenance.

Failure to do regular maintenance will void warranty

Only Use AW Series Hydraulic Oil, Use of any other Oil will Void All Warranties

Check The Following Each time the Processor is Used

What	How
Hoses	Inspect for exposed wire mesh and leaks. Replace all worn or damaged hoses before starting engine
Hydraulic Fittings	Inspect for cracks and leaks. Replace all damaged fittings before starting engine
Nuts and Bolts	Visually Check for loose bolts
Moving Parts	Clear debris
Ram Valley	Clean Sawdust from slider area after every use to prevent possible jamming
Grease	Grease Ram slider & saw chain engagement roller/pad every use
Chain	Check saw chain for sharpness and correct tension
Bar Oil	Ensure Bar Oil tank is full
Conveyor	If Conveyor Belt is not centered on pulleys use adjusting bolts to correct position of belt, run

10 Hour Maintenance – Every 10 Hours of Operation

Nuts and Bolts	Snug and Tighten all Bolts, Including Motor Mounts and large nut on hydraulic ram
Grease	Grease 3 Conveyor Bearings
Grease	Grease wheel hubs
Grease	Log Rollers
Engine Oil	Check level and cleanliness **Use 10/30 Oil**
Hydraulic Oil	Check level and cleanliness **Use AW Series Hydraulic Oil Only**
Air Filter	Check & Clean Engine Air Filter if Necessary

Saw and Ram engagement Adjustments

Fig.1

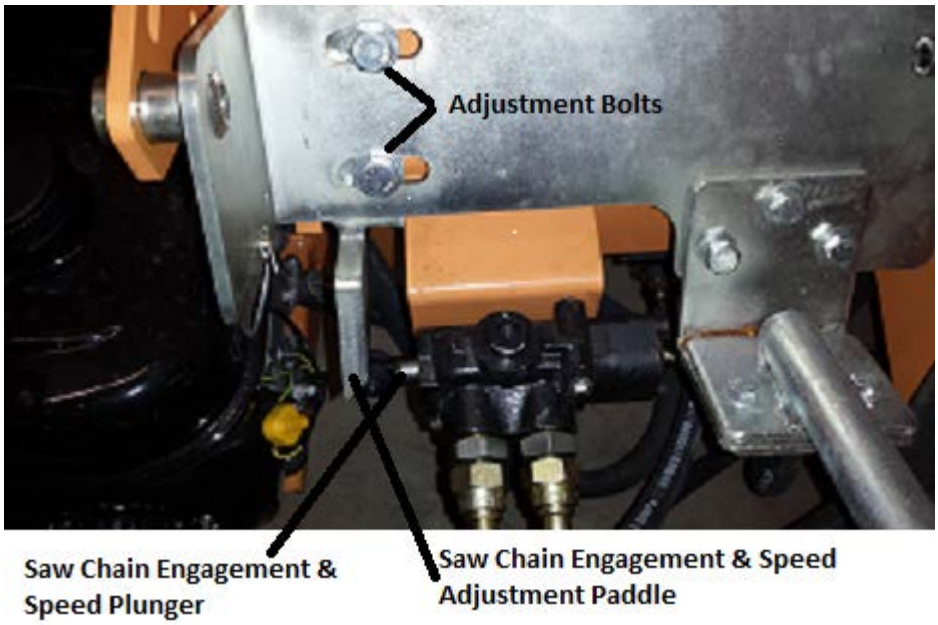


Fig.2

The Saw Chain and engagement paddle is used to control when the chain starts to spin and also the speed that it spins. When the 2 bolts are loosened the paddle moves freely up, down and side to side. Fig. 1 shows the paddle adjusted to engage the plunger as soon the handle is moved down, this saw blade is engaged as soon as the plunger is depressed. Fig. 2 shows the paddle engaging the change at full speed, the further in the plunger is pushed the faster the saw blade will turn**.**

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Fig.3

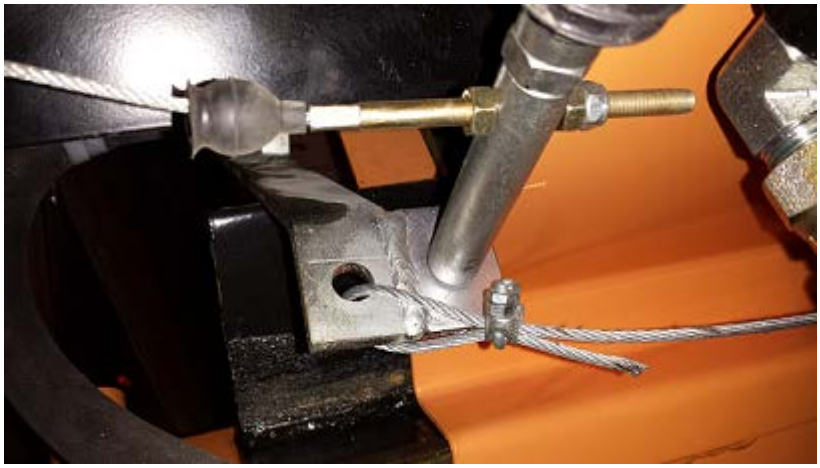

Fig.4

Fig. 3 shows the Cables attached to the Ram Engagement Lever, the upper cable connects to the Saw Bar Handle, When the handle is pulled down and the cut is most of the way through the log this cable starts to engage the lever, you will feel the extra tension on the bar as you pull, this cable should be adjusted so that when you have cut completely through the log the Ram engages automatically, when it is to tight and the ram will try to engage to soon, when it is to loose and the ram will have to be engaged manually.

The Splitter cover has a safety cable connected to the mesh, this should be adjusted so when the cover opens the manual engagement lever moves to the down position putting the hydraulic in neutral. If this cable is to tight you will not be able to pull the Saw Bar Handle all the way through the log and the manual engagement handle may not be able to be pushed down to engage the ram, if it is too loose it will not pull the hydraulics into neutral when the cover is opened.

Troubleshooting

Problem	**Solution**
Cylinder rod will not move	SOLUTION: A,D,E,H,J
Slow cylinder rod speed when extending or retracting	SOLUTION: A,B,C,H,I,K,L
Wood will not split or splits extremely slowly	SOLUTION: A,B,C,F,I,K
Engine bogs down during splitting	SOLUTION: G,L
Engine stalls under low load condition	SOLUTION: D,E,L,M,0

Cause	Solution
A-Insufficient oil to pump	Check oil level in reservoir
B-Air in oil	Check oil level in reservoir
C-Excessive pump inlet vacuum	Check pump inlet hose for blockage or kinks
D-Blocked hydraulic lines	Flush and clean the processor hydraulic system
E-Blocked control valve	Flush and clean the processor hydraulic system
F-Low control valve setting	Adjust control valve with a pressure gauge
G-High control valve setting	Adjust control valve with a pressure gauge
H-Damaged control valve	Return control valve for authorized repair
I-Internal control valve leak	Return control valve for authorized repair
J-Internal cylinder leak	Return cylinder for authorized repair
K-Internally damaged cylinder	Return cylinder for authorized repair
L-Engine Control out of adjustment	Adjust idle control nuts
M-Engine is loaded during idle down mode	Use shorter log length (24” or less) to allow engine to speed up before contact.
N-Coupler between engine and hydraulic pump disconnected	Ensure the rubber coupler is in place and tighten hex screw.
O-Dirty Air Filter	Clean or Replace Filter

Specifications

Model	6.5 Ton Firewood Processor
Engine	Lifan Engine 9HP
Maximum Splitting Force	6.5 Tons
Bar	16”
Chain	16” .325” .058”/1.5mm 64 drive teeth
Hydraulic Oil Capacity	20 litres (5 gallons) AW32
Maximum Log Length (cut)	58 cm (24”)
Maximum Log Diameter	36 cm (14”)
Pump Capacity	28.8L/Min Single Stage Pump
Saw Motor	28.8L/Min 4800 RPM
Trailer Coupler	2”
Hydraulic Cylinder Stroke	61 cm (24”)
Cycle Time	8 seconds
Maximum Towing Speed	70 km/h (45 mph)

The manufacturer reserves the right to make improvements in design and/or changes in specifications at any time without incurring any obligation to install them on units previously sold.

Note: Any modification to Processor will void all warranty
Failure to do regular maintenance will void warranty
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Specifications

Model	10 Ton Firewood Processor
Engine	Lifan Engine 13HP Electric Start
Maximum Splitting Force	10 Tons
Bar	18”
Chain	18” .325” .058”/1.5mm 72 drive teeth
Hydraulic Oil Capacity	20 litres (5 gallons) AW32
Maximum Log Length (cut)	58 cm (24”)
Maximum Log Diameter	36 cm (15”)
Pump Capacity	36L/Min 2 Stage Pump 3000 Psi
Saw Motor	28.8L/Min 6000 RPM
Conveyor	320 cm (128”)
Conveyor Pump	18L/min 3000 Psi
Trailer Coupler	2”
Hydraulic Cylinder Stroke	61 cm (24”)
Cycle Time	8 seconds
Maximum Towing Speed	70 km/h (45 mph)

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Spare Parts

RR1101	16” Chain
RR1102	16” Bar
RR1104	8” Tire & Wheel Assembly
RR1105	Hydraulic Pump, Single Stage
RR2121	18” Chain
RR2122	18” Bar
RR2123	6 Way Splitter
RR2124	13” Tire & Rim Assembly
RR1103	Ram Engagement Cable
RR2125	Saw Motor
RR2126	Conveyor Motor
RR2127	Hydraulic Pump, 2 Stage
RR2128	Ram Assembly
RR2129	Hydraulic Valve with Handle
RR2130	Hydraulic Valve, Ram Engagement
RR2131	Conveyor Belt
RR2132	Starter Motor
RR2133	Battery
RR2134	95 Series Lovejoy Rubber Coupler

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